

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

Claim 1 (Currently amended): A method for constructing a superconducting cable comprising N phases, the method comprising

- providing each phase in the cable in the form of a number of superconducting phase conductors,
- classifying the phase-conductors in N-phase groups, each N-phase group comprising a phase conductor from each of the N different phases, where N is greater than one, and where the number of N-phase groups is larger than or equal to two,
- arranging insulation in the cable around each phase conductor or between assemblies of phase conductors, and providing that said N-phase groups are electrically insulated from each other, and
- providing the N-phase groups or assemblies of N-phase groups with a common electrically conductive screen,

wherein the N-phase groups are arranged in a number of coaxial groups comprising at least two coaxial layers and having a common axis, either with different phase conductors corresponding to different phases in each coaxial layer or with each individual phase conductor of a particular phase in a separate coaxial layer,

wherein the superconducting cable has fewer cooling channels for refrigerant than phase conductors,

and wherein the common axis of the coaxial layers is oriented along the length of the superconducting cable.

Claim 2 (Previously presented): A method according to claim 1, wherein the individual phase conductors only contain superconducting cable wire and an insulation system.

Claims 3-4 (Canceled)

Claim 5 (Previously presented): A method according to claim 1, wherein each of the phase conductors is constructed by one or more individual conductors.

Claim 6 (Previously presented): A method according to claim 1, wherein all N-phase groups are gathered in one assembly which is surrounded by the common electrically conductive screen.

Claim 7 (Canceled)

Claim 8 (Original): A method according to claim 1, wherein the phases in each N-phase group or assembly of N-phase groups are separately and electrically isolated from each other.

Claim 9 (Withdrawn): A method for constructing a superconducting cable comprising N phases, the method comprising:

providing each phase in the cable in the form of a number of superconducting phase conductors;

classifying the phase-conductors in N-phase groups, each N-phase group comprising a phase conductor from each of the N different phases, where N is greater than one, and where the number of N-phase groups is larger than or equal to two;

arranging insulation in the cable around each phase conductor or between assemblies of phase conductors, and providing that said N-phase groups are electrically insulated from each other; and

providing the N-phase groups or assemblies of N-phase groups with a common electrically conductive screen, wherein the phases in each N-phase group or assembly of N-phase groups are isolated from each other by a common insulator comprising at least one continuous foil.

Claim 10 (Original): A method according to claim 1, wherein the number of N-phase groups is larger than 10.

Claim 11 (Currently amended): A method according to claim 1, wherein the common electrically conductive screen is kept at 0 potential and consists fully or partially of superconducting, metallic, or~~and~~ semiconducting materials or of a combination of these materials with non-conducting materials and composites and is positioned close to the insulation~~electrically-insulating material~~.

Claim 12 (Canceled)

Claim 13 (Previously presented): A method according to claim 1, wherein at least one of the phase conductors is constituted by a neutral conductor.

Claim 14 (Currently amended): A superconducting cable comprising N phases, wherein each phase in the cable comprises a number of superconducting phase conductors, the phase-conductors having been classified into N-phase groups, each N-phase group comprising a phase conductor from each of the N different phases, where N is greater than one, and where the number of N-phase groups is larger than or equal to two, and wherein insulation has been arranged in the cable around each phase conductor or between assemblies of phase conductors, and so that said N-phase groups are electrically insulated from each other, and one or more of the N-phase groups or assemblies of N-phase groups has/have been provided with a common electrically conductive screen, wherein the N-phase groups are arranged in a number of coaxial groups comprising at least two coaxial layers and having a common axis, either with different phase conductors corresponding to different phases in each coaxial layer or with each individual phase conductor of a particular phase in a separate coaxial layer, wherein the superconducting cable has fewer cooling channels for refrigerant than phase conductors,

and wherein the common axis of the coaxial layers is oriented along the length of the superconducting cable.

Claim 15 (Original): A method according to claim 1, wherein the number of N-phase groups is larger than 100.

Claim 16 (Previously presented): A method according to claim 1, wherein the N phases are arranged concentrically with concentric insulation between each of the N phases.